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At Draper Fisher Jurvetson, we invest in innovative new businesses run by visionary entrepreneurs who want to change the world. We have invested in companies like Posit Science, testifying here today, and we applaud their call for a bold initiative to promote cognitive fitness, one of the critical missing links to a prosperous future for America.

In thinking about the aging demographic in America, let me approach the issue as a capitalist, for I am a venture capitalist after all. Rather than regarding the burgeoning ranks of retirees as an economic sink of subsidies, I see an enormous *market* and an untapped opportunity. Many marketers are realizing the power of the boom, and some of our largest investors have made their fortune attending to the shifting needs of the boomers.

I envision a future where many aging boomers are happily and productively working, flex-time, from home, on tasks that require human judgment and can be abstracted out of work flows.

Fortunately, we are clearly entering an information age for the economy. The basis of competition for most companies and all real GNP growth will come from improvements in information processing. Even in medicine and agriculture, the advances of the future will derive from better understanding and manipulation of the *information* systems of biology.

In short, the boomers will be America's outsourcing alternative to off-shoring. The Internet's latest developments in web services and digital communications (VOIP and videoconferencing) lower the transaction costs of segmenting information work across distributed work organizations. For example, Skype software makes long distance phone calls free, removing a major cost of distance.

There is a wonderful economic asymmetry between those who have money and those who have time, between those who need an answer and those with information. This is a boomer opportunity. Imagine a modern-day Web librarian. Think of professional services, like translation, consulting or graphic arts. The majority of economic activity is in services, much of which is an information service, freely tradable on a global basis. Imagine an eBay for information. Companies like Ingenio are developing that marketplace today, and boomers may be the beneficiaries.

As capitalists, we see many investment opportunities beyond obvious products, like comfortable shoes and online social networks. The free market will naturally exploit opportunities in secondary education and retraining, telecommuting technologies for rich communication over the Internet, web services to segment and abstract workflow processes and ship them over the network to aging boomers, and technology to help all of us retain our mental acuity and neural plasticity as we age. Lifelong learning is not just about enlightenment; it's an economic imperative.

Where can the government help? Primarily in areas already entrenched in regulation. I will point out two areas that need attention:

1) **Broadband Access**. Broadband is the lifeline to the economy of the future. It is a prerequisite to the vision I just described. But America trails behind twelve other countries in broadband adoption. For example, our per-capita broadband adoption is less than half that of Korea. The Pew Internet Project reports that "only 15% of Americans over the age of 65 have access to the Internet."

Broadband is infrastructure, like the highways. Governments have a role in building and supporting infrastructure, and those nations whose governments have taken that role have surpassed the U.S. The roads also have to be free for innovation in the vehicles or software that run on them. Would we have permitted GM to build the highways in exchange for the right to make them work

exclusively with GM cars? Yet that is what we are doing with current broadband regulation.

2) **Reengineering the FDA and Medicare**. This should be a joint optimization. Medicare has the *de facto* role to establish reimbursement policy, and it often takes several years *after* FDA approval for guidelines to be set. This could be streamlined, and shifted to a parallel track to the FDA approval process so that these delays are not additive.

Why is this important? We are entering an intellectual Renaissance in medicine, but the pace of progress is limited by a bureaucracy that evolves at a glacial pace, relative to the technological opportunities that it regulates.

The FDA processes and policies will need to undergo profound transitions to a future of personalized and regenerative medicine. The frustration and tension with the FDA will grow with the mismatch between a static status quo and an exponential pace of technological process. Exponential? Consider that 80% of all known gene data was discovered in the past 12 months. In the next 20 years, we will learn more about genetics, systems biology and the origin of disease than we have in all of human history.

The fate of nations depends on their unfettered leadership in the frontier of scientific exploration. We need to explore all promising possibilities of research, from nanotechnology to neural plasticity to reengineering the information systems of biology. We are entering a period of exponential growth in technological learning, where the power of biotech, infotech, and nanotech compounds the advances in each formerly discrete domain. In exploring these frontiers, nations are buying options for the future. And as Black-Scholes option pricing reveals, the value of an option *grows* with the range of uncertainty in its outcome.

These are heady times. Historians will look back on the upcoming nano-bio epoch with no less portent than the Industrial Revolution.

If we give our aging boomers free and unfettered broadband access, and our scientists free and unfettered access to the frontiers of the unknown, then our greatest generation, when the look to the next, can take pride in knowing that the best is yet to come.